

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated July 7, 2003 (U.S. Patent Office Paper No. 2). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1 to 5 are pending in this application.

Additional Amendments

The specification is being amended to correct formal errors and to better disclose and describe the features of the present invention as claimed. Applicants have amended the Abstract of Disclosure and corrected the informalities pointed out by the Examiner on page 2, lines 9 to 21 of the office action.

The drawings are being amended to correct formal errors and to better disclose and describe the features of the present invention as claimed. Specifically, the applicants amended the drawings by removing the identifier labels from the top right corner and placing them in the middle top of each drawing sheet. The Examiner is respectfully asked to make note of these changes and to withdraw the objections regarding the drawings.

Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

Claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada *et al.*, U.S. Patent No. 5,898,041 (further, the '041 patent) in view of Morozumi, U.S. Patent No. 5,771,084 (further, the '084 patent). Applicants respectfully traverse the rejection.

Claim 1 recites a liquid crystal display device comprising a liquid crystal panel in which a lower substrate having thin film transistors for switching for pixel selection on its inside surface and an upper substrate having color filters for plural colors on its inside surface are

disposed in opposition to each other with a layer of a liquid crystal compound being interposed therebetween, and the lower substrate and the upper substrate are stuck to each other by a sealing material which is arranged to surround a display area of the upper substrate and has, in a portion, a cut which serves as a liquid crystal injecting port, the liquid crystal injecting port being sealed with an end-sealing material after a liquid crystal compound has been injected through the liquid crystal injecting port, the amount of constituent components of the end-sealing material which exist as impurities in the liquid crystal compound is 1.0/10,000 or less of the total peak area value of the liquid crystal compound that is measured by gas chromatography/mass spectrometry.

The Examiner alleges in the office action that the '041 patent shows "... in portion, a cut 9 which serves as a liquid crystal injecting port, the liquid crystal injecting port being sealed with an end-sealing material after a liquid crystal compound has been injected through the liquid crystal injecting port (column 12, lines 10 to 35 and column 11, lines 1 to 20)." Applicants respectfully disagree.

In fact, Applicants respectfully submit that the '041 panel does not disclose an end sealing material. Rather, the only passing reference made to closing an opening is made in column 11, lines 11 to 20 wherein:

"By using a seal material using both ultraviolet ray curing and thermosetting curing to allow a temporary hardening of the seal material by ultraviolet ray irradiation after producing a cell, a good straight finishing without discharge or cutoff of the seal material can be obtained as illustrated in FIG. 4. Further, by thermosetting, a seal material having good adherence and moisture resistance was obtained. The cell 7 after main hardening was cut to leave electrode terminal portions and the liquid crystal was filled from an opening 9. By closing the opening, a liquid crystal display panel was completed."

Based on the above, Applicants respectfully submit that besides failing to disclose the presence of transparent pixel electrodes 4 or color filters in the display panel (per Examiner's admission made in the office action on page 4, lines 20 to 23), the '041 patent fails to disclose, teach or support the presence of an end-seal material.

Based of the above, Applicants respectfully submit that the cited references, either singly or in combination, fail to disclose all the features of claim 1. Therefore, the references do not anticipate claim 1. Applicants respectfully ask the Examiner to withdraw the rejection regarding claim 1 and to pass this claim to issue.

Claims 2 to 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada *et al.*, U.S. Patent No. 5,898,041 (further, the '041 patent), in view of Morozumi, U.S. Patent No. 5,771,084 (further, the '084 patent) as applied to claim 1, and in further view of Woods *et al.* U.S. Patent 4,668,713 (further, the '713 patent). Applicants respectfully traverse the rejection.

Claims 2 and 3 depend from and add features to an allowable claim, claim 1. Therefore, they are allowable for at least the same reasons.

In addition, the Examiner alleges in the office action, that although the '041 reference does not teach the presence of the phenolic antioxidant, it would have been obvious to one of ordinary skill in the art to combine the teachings of the '713 patent with the teachings of '041 patent to obtain the disclosure of claims 2 to 5. Applicants respectfully disagree.

Claim 2 recites that the end-sealing material includes among others "a phenolic antioxidant". Based on the showing made above about the disclosure of the '041 patent, this reference does not disclose an end-sealing material, much less a composition for an end-sealing material.

Claim 3 further depends from and adds features to allowable claim 2. Therefore it is allowable for at least the same reasons.

Regarding the rejection of claims 4 and 5, Applicants respectfully submit that the Examiner has not provided specific reasons for this rejection. Applicants respectfully ask the Examiner to provide specific reasons for rejecting claims 4 and 5.

However, to the extent that the '041 patent, the '084 patent and the '713 patent have been cited, Applicants will contend that all three references fall short of rendering each and every feature recited in claims 4 and 5. Specifically, Applicants respectfully submit that after careful review of the references made of record by the Examiner, none discloses, among other features, "the amount of constituent components of the end-sealing material which exist as impurities in the liquid crystal compound after the heating-and-aging step is 1.0/10,000 or less of the total

peak area value of the liquid crystal compound that is measured by gas chromatography/mass spectroscopy" as recited by claim 5.

Conclusion

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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